

Translation

PATENT COOPERATION TREATY

PCT/JP2003/012905



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

07 APR 2005

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference JSONY-435PCT	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/012905	International filing date (day/month/year) 08 October 2003 (08.10.2003)	Priority date (day/month/year) 08 October 2002 (08.10.2002)
International Patent Classification (IPC) or national classification and IPC B41J 2/01		
Applicant SONY CORPORATION		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 8 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 07 May 2004 (07.05.2004)	Date of completion of this report 28 December 2004 (28.12.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/012905

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ The international application as originally filed/furnished

☒ the description:

pages _____ 2-4,6-19 _____, as originally filed/furnished

pages* _____ 1,5,5/1 _____ received by this Authority on _____ 07 May 2004 (07.05.2004)

pages* _____ received by this Authority on _____

☒ the claims:

pages _____ 1-15 _____, as originally filed/furnished

pages* _____, as amended (together with any statement) under Article 19

pages* _____ 16-18 _____ received by this Authority on _____ 22 October 2004 (22.10.2004)

pages* _____ 19 _____ received by this Authority on _____ 07 May 2004 (07.05.2004)

☒ the drawings:

pages _____ 1-16 _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP03/12905

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-19	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-19	NO
Industrial applicability (IA)	Claims	1-19	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: JP, 2002-240287, A (Sony Corp.), 28 August, 2002 (28.08.02), full text, all drawings (Family: none)

Document 2: JP, 59-207262, A (Hewlett-Packard Co.), 24 November, 1984 (24.11.84), full text, all drawings, & EP, 124312, A

Document 3: JP, 8-216412, A (Canon Inc.), 27 August, 1996 (27.08.96), full text, all drawings (Family: none)

Claims 1-6 and 19

Document 2 (page 3, upper left column, line 18 to page 4, upper right column, line 10 and Figs. 1-4) describes a liquid discharging head having resistance elements for generating the heat energy for discharging a liquid, in which (1) the said resistance elements respectively have two main portions for generating the heat energy for discharging a liquid, (2) the resistance elements have wiring conductors on the portions excluding the portions intended for generating the heat energy, (3) the two resistance elements are connected with each other by means of one of the said conductors on one end side, (4) the said two resistance elements have one each of the wiring conductors on them on the other end side, and (5) one nozzle for discharging the liquid is provided over the two resistance elements.

The areas on the top surfaces of the resistance elements where wiring conductors are formed do not generate heat. So, a person skilled in the art could have easily formed a resistor below the wiring conductor connecting the two resistance elements on one end side, for constituting the two resistance elements as one base substance formed like virtually a pair or more of short turns in alternate directions such as U-shape or recessed form. Therefore, the subject matters of claims 1-6 and 19 do not appear to involve an inventive step in view of document 2.

Claims 7-15

Document 3 (column 6, lines 27-46, and Fig. 10) describes that a conductor is connected outside the end of a slit formed in the resistance element. A person skilled in the art could have easily connected the conductor at the angle portion of the pair or more of short turns, in the area outside the inner line of the angle portion.

Claims 16-18

Document 1 (column 8, line 47 to column 9, line 5, and Fig. 3) describes that the characteristics of the heat energy generated from the two portions of a resistance element are made different for controlling the discharge direction of the liquid discharged from a nozzle.